



Attorney Docket :
032301 WN 104

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

) **Confirmation No. 9757**
)

Raymund SONNENSCHN, et al.)

Serial No.: 09/818,997)

) **Group Art Unit: 1764**
)

Filed: March 28, 2001)

) **Examiner: V. MANOHARAN**

For: **METHOD FOR THE PREPARATION OF PROPYLSILANES
FUNCTIONALIZED IN THE 3 POSITION**

DECLARATION UNDER 37 C.F.R. §1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Declaration of Raymund Sonnenschein

I, Raymund Sonnenschein, declare as follows:

1. I am employed at Degussa AG in Hanau, Germany (assignee of this application) in the capacity of Chemical Engineer. My current address is Grosse Rittergasse 13, 60594 Frankfurt, Germany. I am a person of skill in the technical discipline of the present invention. Attached hereto is a copy of my curriculum vitae.

2. I have read U.S. Patent Application No. 09/818,997 entitled "METHOD FOR THE PREPARATION OF PROPYLSILANES FUNCTIONALIZED IN THE 3 POSITION".

BEST AVAILABLE COPY

Serial No. 09/818,997
Docket : 032301 WN 104

including the currently pending claims in that application, claims 1, 3-13, and 15-24. Additionally, I have read the June 9, 2004 and December 8, 2004 Office Actions issued by the United States Patent and Trademark Office relating to this application.

3. I understand that the U.S. Patent and Trademark Office Examiner has rejected claims under 35 U.S.C. § 103(a) as obvious based on Seiler (U.S. Pat. No. 4,224,233) or Schilling (U.S. Pat. No. 6,015,920) in view of Seiler (U.S. Pat. No. 4,196,139) and Bowman et al. (U.S. Pat. No. 5,559,264)

I have fully reviewed and understand the cited patents listed above.

4. It is my understanding that the Examiner has taken the position that performing the claimed method in a reaction column is well known. Furthermore, it is my understanding the Examiner bases this conclusion on the paragraphs bridging pages 2 and 3 (i.e. page 2, line 11 through page 3, line 4) of the specification of U.S. Patent Application No. 09/818,997. I respectfully disagree with the Examiner's conclusion.

5. The above identified application describes a process for reacting, for example, trichlorosilane and allylchloride in a reactive distillation column, carrying out the reaction of the two raw materials and the separation of all products at the same time along the column. It is known that excess trichlorosilane increases the yield of the preferred product chloropropyltri-chlorosilane and lowers the byproducts Propylene (as a low boiling component) and propyltrichlorosilane and Silicontetrachloride (as high boiling components). Conducting the reaction in a reactive distillation column has not been disclosed heretofore based on my knowledge of the prior art. Due to the continuous separation of the products from the raw materials along the column and the reflux of the

Serial No. 09/818,997
Docket: 032301 WN 104

raw material trichlorosilane in accordance with the invention described in this application, a very high surplus of Trichlorosilane is achieved in the upper section of the column, reaching even infinity in the head of the column. This leads to the high yield of the reaction towards the intended product.

7. The specification of the above identified application discusses DE 41 19 994, which discloses the reaction of hydrosilane with allylchloride. However, DE 41 19 994 does not teach or suggest using a reaction column or operating the reaction column in the temperature range of between 90°C and 190°C along the reaction column. The reference in the specification of the above identified application to a column filled with platinized activated charcoal was merely to illustrate a problem that would exist even if the reaction column claimed in the present claims were used (i.e. if the reaction were carried out under normal pressure.) Only U.S. Patent Application No. 09/818,997 teaches using a distillation reaction column wherein distillation takes place simultaneously with the reaction in the reaction column.

8. Accordingly, it is my opinion that none of the cited patents, when taken alone or combined, teach or fairly suggest the claimed invention to a person having ordinary skill in the technology. Moreover, the teachings of the four cited patents fail to teach or fairly suggest a method that includes reacting the reagents in a reaction column; the claimed temperature range along the reaction column; or where distillation takes place simultaneously with the reaction in the reaction column.

Serial No. 09/818,997
Docket 032301 WN 104

9. I declare, under penalty of the perjury laws of the United States, that all statements made herein of my own knowledge are true and that all statements made based on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Respectfully submitted,

By: 

Date Signed : Feb. - 28 - 2005

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.